NON-CONFIDENTIAL
No. 2012-1338

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

APPLE INC.,

Appellant,

– v. –

INTERNATIONAL TRADE COMMISSION,

Appellee,

and

MOTOROLA MOBILITY, INC.,

Intervenor.

─────────────

ON APPEAL FROM THE UNITED STATES INTERNATIONAL TRADE COMMISSION
IN INVESTIGATION NO. 337-TA-750

─────────────

REPLY BRIEF OF APPELLANT APPLE INC.

─────────────

Mark G. Davis
Weil, Gotshal & Manges LLP
1300 Eye Street, N.W., Ste 900
Washington, DC 20005

Matthew D. Powers
Tensegrity Law Group LLP
555 Twin Dolphin Drive
Suite 360
Redwood Shores, CA 94065

E. Joshua Rosenkranz
Alyssa Caridis
Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
(212) 506-5000

Mark S. Davies
Rachel M. McKenzie
T. Vann Pearce, Jr.
Amisha R. Patel
Orrick, Herrington & Sutcliffe LLP
1152 15th Street, N.W.
Washington, DC 20005

Attorneys for Appellant Apple Inc.

TABLE OF CONTENTS

Page

Material has been deleted from pages 5, 6, 7, 12, 15, 36 and 37 of the Non-Confidential Reply Brief of Appellant Apple Inc. This material is deemed confidential information pursuant to 19 U.S.C. § 1337(n) and 19 C.F.R. § 210.5, and pursuant to the Protective Order entered November 30, 2010, and the Orders Amending the Protective Order entered January 14, 2011, and June 16, 2011. The material omitted from these pages contains confidential deposition and hearing testimony, confidential business information, confidential patent application information, and confidential licensing information.

TABLE OF AUTHORITIES

Page(s)

CASES

STATUTES

INTRODUCTION

This case boils down to competing explanations of an undisputed reality. Apple contends that the iPhone's phenomenal success is driven by its remarkable user interface: a full image multi-touch screen made possible by the transparent mutual capacitance sensor claimed in the '607 patent. Motorola and all the other competitors "followed Apple's lead" in "using transparent full-image, multitouch sensors based on mutual capacitance," A7390; *see* Apple Opening Brief ("AOB") 25-27, because of the sensor's "essential excellence, indeed, its pronounced superiority over all other forms." *Diamond Rubber Co. v. Consol. Rubber Tire Co.*, 220 U.S. 428, 442 (1911).

Motorola has a different explanation for the iPhone's success: "great marketing." Motorola Brief ("MB") 1. But Madison Avenue could not possibly turn a company that had never before produced a cell phone into a dominant force in the wireless market. Steve Jobs's charisma, alone, could not have made the iPhone "the fastest-selling smartphone of all time" the year it was introduced, A8259, nor yielded a seven-fold increase in the *billions* of dollars of iPhone sales between 2008 and 2011. A14,184; *see* AOB 23-24. One thing is clear: No ad

campaign can explain why industry observers lauded the "magic touchscreen," AOB 22-24, nor do clever TV spots explain why Motorola studied and then mimicked the multi-touch sensor technology.

Motorola's assertion that the multi-touch sensor was obvious (and, indeed, anticipated) teeters on a single aspirational sentence in the SmartSkin reference that was considered by the Patent and Trademark Office. Alone, that sentence—uttered in the same breath as a fantasy to create a sensitive pet robot—gave no explanation and no incentive to make anything. To be sure, Apple took inspiration from SmartSkin's *opaque* touch sensor, just as every inventor stands on the shoulders of predecessors. But Apple alone figured out how to make the transparent sensor work.

Motorola puts most of its eggs in the anticipation basket, based on the provisional application that ultimately morphed into the Perski patent. That application, however, was a work in progress, which did not explain *how* a transparent sensor could work, as the ultimate Perski patent did. In any event, the sensor described in the Perski patent did not, in fact, work—at least not in the way Apple's sensor does. It was fine for an on-screen hunt-and-peck keyboard. But it was neither fast

2

enough nor accurate enough to provide the full multi-touch

functionality that Apple's patent did. It, therefore, did not anticipate

Apple's patent.

ARGUMENT

I. THE ITC ERRED IN HOLDING THAT APPLE'S TRANSPARENT FULL IMAGE MULTI-TOUCH SENSOR WAS OBVIOUS IN LIGHT OF SMARTSKIN

Apple's opening brief identified four distinct legal errors in the

ITC's obviousness decision:

1. Applying this Court's recent decision in *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1377 (Fed. Cir. 2012), we explained that the ITC ignored that Apple alone was focused on *replacing*, rather than "extending," the traditional computer screen. *See* AOB 36-40, 48-49.

2. Applying the Supreme Court's decision in *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U.S. 428, 435 (1911), we explained that the ITC erred in dismissing the technical challenge of measuring capacitance changes in a material as nonconductive as ITO. *See* AOB 47, 50-51.

3. Applying this Court's decision in *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litigation*, 676 F.3d 1063, 1075, 1079 (Fed. Cir. 2012), we explained that the ALJ erred by relegating to an afterthought the critical inquiry of whether the iPhone and iPad's success, acclaim, and copying by others demonstrate the invention was not obvious. *See* AOB 44-47, 51-53.

4. Perhaps most important, citing the principle of deference articulated in *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1353 (Fed. Cir. 2001), we explained that the ITC erred

3

in ignoring the PTO's six-year study of the relevant prior art, failing even to mention that the art at issue in this case was before the PTO. *See* AOB 54.

Motorola's answering brief has no answers. ***Not one of the cases listed above appears in Motorola's brief.*** No mention of *Mintz* (cited by Apple eight times), no mention of *Diamond Rubber* (cited by Apple eight times), no mention of *Cyclobenzaprine* or *McGinley*. *See* MB vii-viii.

Rather than discuss the most relevant cases, Motorola and the ITC repeat the ALJ's errors. This Court should reverse the ITC's obviousness finding. It should also reject Motorola's argument for affirming on the ground that the same SmartSkin reference anticipated the '607 patent.

A. Apple's Transparent Full Image Multi-Touch Sensor Was Highly Innovative

Motorola cannot prevail merely by asserting that "[e]very element of the '607 Asserted Claims was well-known prior to the '607 filing date." MB 12. "[I]nventions in most, if not all, instances rely upon building blocks long since uncovered." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418-19 (2007). The key question, which Motorola never answers, is: "If all the information was at hand, why was the new

4

combination so long delayed?" *Jungersen v. Baden*, 166 F.2d 807, 812 (2d Cir. 1948) (Hand, J., dissenting). There are two answers and Motorola does not persuasively rebut either.

The first answer is that "often … inventive contribution lies in defining the problem in a new revelatory way." *Mintz*, 679 F.3d at 1377. Motorola is wrong in contending that SmartSkin, rather than Apple, "define[d] the problem." MB 52. Apple was striving to turn the computer screen into an interactive surface, with ███████████████ ██████████████████████████ A8386. Motorola does not dispute that Sony was studying a different problem: "extending [the] computerized workspace *beyond* the computer screen" by "turn[ing] *real-world surfaces*, such as tabletops or walls, into interactive surfaces." A13,597 (emphasis added). Nor does it address the ALJ's finding that the problem Sony was studying had nothing to do with a transparent sensor. A188-89.

The second answer is that even if making the combination of ITO electrodes with mutual capacitance sensing was "obvious to try," the solution was out of reach; there was no "anticipat[ion] [of] success." *KSR*, 550 U.S. at 421. Contrary to Motorola's assertion, the SmartSkin

reference did not "provide the solution to that problem." MB 52. An engineer of ordinary skill could not "simply follow the directions contained in the 'Future Work' section of SmartSkin," MB 54, because there were no "directions." A suggestion to "link[] capacitive sensing … with transparent electrode[s] made of ITO," MB 54, is not a "direction." It's a concept—like encouraging Edison to "link a glass bulb with a carbon filament." It gives the reader no instruction on how to make a mutual capacitance sensor work with electrodes made of ITO rather than copper. This Court confronted exactly this situation in *In re Roemer*, holding that such an "assertion" that "is not accompanied by any teaching of how to adopt" the prior art teaching to a new use cannot render that use obvious. 258 F.3d 1303, 1309 (Fed. Cir. 2001). Neither Motorola nor the ITC even cite the decision.

The absence of any such teaching is critical because getting the device to work was not simply a matter of substituting ITO for copper. *See* AOB 17-18, 49-51. Motorola concedes that ▮▮▮▮▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ MB 55. Motorola also does not dispute that a ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮
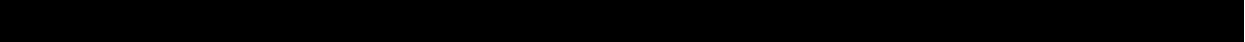
AOB 17-19. Motorola claims—

with no support—that "[a] charge amplifier is taught in engineering

101." MB 4. So were carbon filaments in Edison's time. But the record

reflects that the solution of using such an amplifier in this particular

structure was not obvious. Not to Apple's very experienced engineers—

and, *a fortiori*, not "to a person with a lower level of skill." *Innovention*

Toys, LLC v. MGA Entm't, Inc., 637 F.3d 1314, 1323 (Fed. Cir. 2011).

Motorola, together with the ITC, next asserts that it is irrelevant

how inventive Apple's rewiring was because "there is no limitation in

any of the asserted claims that requires Apple's charge counting

technique." MB 56; *see also* ITC Brief ("IB") 45-49. Motorola ignores

that the claims do not have to explicitly mention charge-based circuitry.

"[I]t is fundamental that claims are to be construed in the light of the

specifications and both are to be read with a view to ascertaining the

invention." *United States v. Adams*, 383 U.S. 39, 48-49 (1966). The '607

patent unquestionably *does* claim a "transparent" sensor. A561, col.

21:35-41. And as Apple's expert explained, "the way you can get there

… is with the charge counter."[1] A31,784. "[T]he described sensing

circuit of figure 13 … [is] a circuit that is going to count charge."

A31,773; *see also* A545, figs. 12 &13; A559, col. 17:12-61; A10,152

(distinguishing prior art during prosecution on the ground that it

"detect[s] a change in voltage"). True, Apple's expert did not declare

that a charge counter would *always* be an essential element of a

transparent sensor that meets the multi-touch limitations of the '607

patent. But, at least for now, and on this record, there is no other

plausible alternative.[2]

Motorola (in its introduction, but not in its argument) dismisses

Apple's focus on charge counting as not just "litigation-inspired," but

"concocted" at the last minute. MB 3. Not so. Long before the

---

[1]   Motorola mischaracterizes Dr. Subramanian's testimony by quoting part of an answer out of context. MB 3-4, 56 (quoting A30,923). Responding to one of Motorola's failed noninfringement arguments, Dr. Subramanian actually testified that the claimed capacitive monitoring circuitry "certainly can count charge." A30,924. His point was "that is not the only function" that the circuitry must perform. *Id.*

[2]   Motorola notes the ITC's determination that "Perski '455, which incorporates the Morag '662 application by reference, teaches that a voltage sensing system can be used with high resistance transparent electrodes." MB 57 (citing A529). But in fact Perski's voltage-based sensing is one reason why it fails to detect multiple touches quickly, as required by the '607 patent. A31,794-96; AOB 55-64; *see also infra* at 22-23, 27-29.

litigation, charge counting was disclosed in the '607 patent specification, A545, figs. 12 &13; A559, col. 17:12-61, and Apple told the PTO that one of the '607 invention's distinguishing features is that it was not based on voltage sensing. A10,152-53. As to the concoction, Motorola made the same objection below. Both the ALJ and the ITC overruled the objection, A526-27, and Motorola has not challenged those rulings on appeal.

Motorola and the ITC tacitly concede that the ITC gave no deference to the PTO's conclusion—after *twice* examining SmartSkin, A8937-44, 9268-75—that the invention was novel and nonobvious. A10,427; *see* A9943-44. They do not dispute that this was a departure from this Court's edict that the PTO is "presumed to have properly done its job" "[w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker." *McGinley*, 262 F.3d at 1353 (citation omitted). They contend that the rule is inapplicable here because SmartSkin was "buried" among other references. MB 25 n.4; *see* IB 50. This Court has never suggested that deference is inversely proportional to the amount of work an agency has to do. If anything, the opposite should be true.

9

Motorola and the ITC belatedly attempt to overcome SmartSkin's many weaknesses by dwelling on prior art references that they either never raised below or have abandoned. In its post-hearing briefing, Motorola relied only on one reference other than SmartSkin as a basis for finding the '607 patent obvious: Japanese Unexamined Patent Application, Rekimoto '033. A4455-71; *see also* A4167. Motorola and the ITC spend several pages discussing Rekimoto '033. *See* MB 14-16; IB 18-19, 45, 52. But the ITC decided to overturn "the ALJ's conclusion that Rekimoto '033 teaches the use of transparent electrodes" and Motorola does not challenge that ruling. A523. Thus, SmartSkin is the *only* prior art reference they are now permitted to invoke.

Nevertheless, Motorola's statement of facts invokes several other prior art references—two Synaptics patents (Miller, A16,637-73, and Hsu, A21,034-49); Serrell, A21,057-64; Evans, A21,001-33; and Bick, A21,050-56. But Motorola dropped these references, A4167, and does not mention them in its argument on appeal—for good reason. As with SmartSkin, they fail to teach either the transparency or the multi-touch limitations of the '607 patent, or both. For example, Miller does not, as Motorola claims, cover "a mutual capacitance, multitouch touch panel."

MB 13. As Apple's expert explained, it says nothing about "how to recognize multiple touches, near touches, or touch events." A8790. Accordingly, these references do not diminish, in any way, the innovation involved in Apple's development of the first transparent full image multi-touch sensor.

B.   Objective Indications Reinforce The Conclusion That The '607 Patent Was Not Obvious

The ITC and Motorola do not dispute that objective evidence "constitutes *independent* evidence of nonobviousness," *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008) (emphasis added), which can compel a finding of nonobviousness even where "standing alone, the prior art provides significant support for the … contention that the … patent would have been obvious," *Alco Standard Corp. v. Tennessee Valley Auth.*, 808 F.2d 1490, 1499 (Fed. Cir. 1986). Nor do they dispute that this Court has repeatedly directed that a fact finder must "consider the objective evidence *before* reaching an obviousness determination" and "may not defer examination of the objective considerations until after [it] makes an obviousness finding." *In re Cyclobenzaprine Hydrochloride*, 676 F.3d at 1075, 1079 (emphasis added).

11

Yet, neither of them even tries to justify the ALJ's lapse in

concluding, first, based on a consideration of prior art, that Apple's

solution was obvious, A216, and only then asking whether the iPhone's

commercial success could "overcome the strong showing of obviousness"

based on prior art. A216-17; *see* AOB 51-52. Nor do they defend the

ALJ's failure even to consider Apple's evidence that Motorola copied the

sensor claimed by the '607 patent. A216-17; *see also* AOB 26-27, 45-46.

These errors, alone, require at least a remand.

Process aside, the ITC and Motorola's attempt to defend the ALJ's

substantive conclusion is unpersuasive. As to the competitor copying,

Motorola suggests that the ALJ's oversight is inconsequential because

"Apple failed to present ***any*** evidence that Motorola copied any of the

features claimed by the '607 patent." MB 60. But Motorola disregards

evidence that it ███████████████████████████████████

A7498, and ██

████████████████████████████ A7496. It also ignores the ALJ's finding

(unreviewed, A498-500, and not challenged on appeal) that all 18 of

Motorola's accused devices infringe *all* of the asserted claims of the '607

patent. A148-68, 244. This evidence refutes Motorola assertion that

the evidence just "show[s] … that like any competitor, Motorola evaluated itself against competitive products." MB 59. Access to and examination of a product, together with an infringement finding, is ample evidence of copying. *See Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1196-98 (Fed. Cir. 2003).

Equally flawed is the ITC's and Motorola's defense of the ALJ's analysis of the one objective factor he did consider—commercial success. They contend that Apple's evidence of the iPhone's success is irrelevant because "the iPhone contains countless features that are completely unrelated to the subject matter of the '607 patent." MB 58; *see also* IB 51. But the argument runs headlong into this Court's holding that a "prima facie case of nexus is made when the patentee shows both that there is commercial success, and that the product that is commercially successful is the invention disclosed and claimed in the patent." *Crocs, Inc. v. ITC*, 598 F.3d 1294, 1310-11 (Fed. Cir. 2010). While the ITC ignores *Crocs*, Motorola attempts to brush it off on the ground that there, "the entire product was covered by the patent." MB 58. But this Court did not suggest that its ruling would be inapplicable where, as here, the patent covers a critical component on which the product's

13

success depends. Nor is *Crocs* "directly contrary" to the nexus cases

Motorola cites. MB 58. No one disputes that a showing of nexus is

required; *Crocs* simply establishes how to make that showing.

In any event, Apple presented evidence establishing that the

immense popularity of the iPhone—among customers and industry

analysts alike—was tied to its unprecedented user interface. AOB 22-

24. The ITC responds (at 51) that the ALJ cited "substantial evidence"

in support of his assertion that "the iPhone's success stems from other

product characteristics," A217, when he cited nothing but the

unsupported *ipse dixit* of Motorola's *technical* expert. A18,188 (cited by

ALJ at A217). But the ITC offers no rebuttal to Apple's point that the

evidence was not substantial, because Motorola's witness had no

expertise in marketing or consumer behavior, and in any event

admitted that he had "not done any surveys about why consumers buy

the iPhone 4" and had no evidence as to "why people are buying the

iPhone 4 in droves." A31,486. This case accordingly is not at all like

Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC, where internal

documents on which the patentee itself relied identified "many factors

… as contributing to [the patentee's] success." 683 F.3d 1356, 1363

(Fed. Cir. 2012).

The ITC, together with Motorola, next claims that Apple's

evidence linking the success of, and praise for, the iPhone to its

innovative touchscreen is irrelevant because "Apple has numerous

patents ... with multiple claims directed towards its touchscreen." IB

51; *see also* MB 59. They fail to acknowledge, however, that ███████

███

█████████████ A14,343. Indeed, the '607 patent is the very foundation

of the iPhone's touchscreen hardware: It is what enables the multi-

touch interaction that consumers have come to expect in smartphones.

See A14,347-50 ██

████████████████████████████████████. Success and praise of the

iPhone because of its touchscreen hardware *is* success and praise

because of the invention claimed in the '607 patent.

The strength of Apple's evidence on these key objective indicia of

nonobviousness—which the ALJ largely ignored and Motorola and the

ITC are unable to refute—compels a finding of nonobviousness here.

C. The SmartSkin Reference Did Not Anticipate The '607 Patent

Motorola argues that this Court should affirm on the alternative ground that the ALJ erred in concluding that SmartSkin did not anticipate the '607 patent. MB 48-51. Motorola cites cases holding that a disclosure anticipates an invention so long as the disclosure enables others to make the invention. *See, e.g.*, MB 49 (quoting *In re Montgomery*, 677 F.3d 1375, 1385 (Fed. Cir. 2012) (Lourie, J., dissenting)). But that rule has no application here. The ALJ found that the SmartSkin suggestion mentioning the transparent sensor left "uncertainty" that "would require additional work." A188-89. Motorola does not challenge this factual finding (which is correct for many of the reasons recited above). Accordingly, Motorola presents no basis for reversing the ALJ's nonanticipation ruling.

II. THE ALJ ERRED IN HOLDING THAT THE PERSKI PATENT ANTICIPATED APPLE'S TRANSPARENT FULL IMAGE MULTI-TOUCH SENSOR

In defending the ALJ's anticipation ruling as to the Perski patent, Motorola and the ITC ignore both the march of time and common sense. Perski applied for his patent *after* Apple invented the multi-touch sensor described in the '607 patent. In any event, the Perski invention

16

is neither fast enough nor accurate enough to operate as a multi-touch sensor. At a minimum, the ALJ's misunderstanding of the relevant burdens mandates a remand.

A. The Perski Patent Is Not Prior Art To The '607 Patent

Apple's position that Perski's patent application (filed in 2004) was not prior art depends on two propositions of timing: (1) Apple reduced its invention to practice in 2003 (i.e., before the Perski patent application); and (2) the Perski patent did not have an earlier priority date based on the '808 provisional application. AOB 6-19; A8728-34. Because the ALJ rejected the second proposition, he did not need to "make any findings on Apple's date of invention arguments." A182. Contrary to Motorola's assertion, there is no need to "challenge this lack of fact finding on appeal." MB 42. If the ALJ's ruling on the second proposition was erroneous, this Court must remand to make the requisite finding on the first. After all, the Court cannot affirm an agency decision "on grounds other than those relied upon in rendering its decision" when such affirmance would "depend upon making a determination of fact not previously made by the [agency]." *In re Comiskey,* 554 F.3d 967, 974-75 (Fed. Cir. 2009). That rule applies here

17

because the ALJ's ruling on the second proposition was, indeed,

erroneous.

1.   The provisional application does not describe how to detect multiple touches

Everyone agrees that the Perski patent cannot be backdated

unless the '808 provisional application furnished a "written description"

for Perski's alleged disclosure of the "multitouch limitations." 35 U.S.C.

§ 112(a); *see* MB 42-43; IB 44. That means Motorola (and the ITC,

which makes identical arguments, *see* IB 34-45) cannot prevail unless it

can point to a statement in the '808 provisional application that is

equivalent to this statement in the Perski patent: "When an output

signal is detected on more then [*sic*] one conductor that means more

than one finger touch is present." A16,610, col. 14:37-40; A184-85.

Motorola has failed. The provisional application was a work-in-

progress, which lacked essential details that Perski disclosed in his

ultimate patent.

This passage in Perski describes *how* to detect multiple touches.

Id. Although this method does not work well (*see infra* at 27-29), it is at

least a method. Perski discloses no other way to determine whether

multiple touches are present. *See* A16,610, col. 13:26-14:59; A18,341-

42. Motorola cannot point to an equivalent how-it-works statement in the '808 provisional application; Perski had not yet figured it out.

Motorola's leading candidate is the provisional application's naked statement that the invention is "able to detect more than one finger touch at the same time." *See* A16,610, col. 14:17-19. That is not the same; it does not describe *how* to detect multiple finger touches. It is like Edison claiming that his light bulb is "able to glow for long periods," before he figured out how. The "extensive and substantive" changes between the disclosures of the '808 provisional application and the Perski patent mean that Perksi cannot rely on the application's earlier date. *Anascape, Ltd. v. Nintendo of Am., Inc.*, 601 F.3d 1333, 1338 (Fed. Cir. 2010) (ruling as a matter of law that patent could not claim priority to earlier application due to changes in disclosure).

Motorola's backup candidate is a sentence in the '808 provisional application expressing a "goal" to "recognize all of the sensor matrix junctions that bypass signals due to external finger touch." MB 45. But a "goal," like a "mere wish or a plan for obtaining the claimed invention[,] is not adequate written description." *Centocor Ortho*

Biotech, Inc. v. Abbott Labs., 636 F.3d 1341, 1348 (Fed. Cir. 2011) (internal quotation marks omitted).

In any case, this "goal," even if achieved, would not endow a device with "the ability to detect multiple touches." It would only detect "matrix junctions." There is a big difference. To illustrate, Figure 3 of the '607 patent shows four finger touches (44). But those four touches trigger signals at *35* different junctions (the dots labeled 42A):
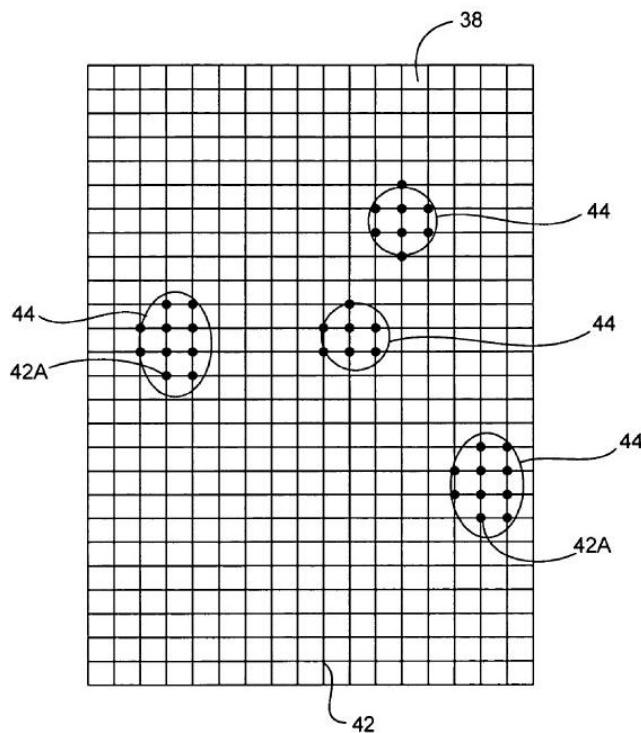

FIG. 3

A539, fig. 3; A553, col. 6:7-13. Nowhere in the Perski '808 application is there any description of how the device would interpret the 35 junction

20

contacts. A16,152. So far as appears from the application, the touchscreen would not know whether it was being touched by one finger, or four, or 35. It would lack "the ability to detect multiple touches."

There is yet another "extensive and substantive" change between the provisional application and the Perski patent. As Motorola takes pains to point out, MB 38, the provisional application suggests the same scanning algorithm used in the '607 patent. But Perski deleted the suggestion, A6857—undoubtedly because the algorithm did not work well in his disclosed invention. Instead, Perski teaches the $2*n*m$ scanning method which "disadvantageously" requires many steps to avoid ambiguity. *Compare* A16,152 *with* A16,610, col. 14:31-37.

Thus, the ALJ erred in attributing to the Perski patent the provisional application's earlier filing date. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (to satisfy the written description requirement, specification must "show that the inventor actually invented the invention claimed"); *New Railhead Mfg. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294-97 (Fed. Cir. 2002) (claimed invention not supported by a provisional).

2. The provisional application does not describe how to "output information to a host device to form a pixilated image"

Apple's opening brief (at 66-67) identified a second, distinct reason why the Perski patent could not be backdated: The '808 provisional application teaches nothing about the "pixilated image" term of claim 10 in the '607 patent. The provisional does not support this claim element unless it incorporates by reference the "Front End" and "Digital Unit" described in Morag '662. AOB 66-67.

Motorola points to the two places where Perski '808 mentions Morag '662's "sensing device" and argues—*citing **no** record support*—that the "Front End" and "Digital Unit" are "both part of Morag '662's sensing device." MB 47. That is incorrect.

The Morag "Front End" (2) and "Digital Unit" (3) are "separate and distinct" elements of the Morag '662 system from the "Sensor," (1) as shown below:
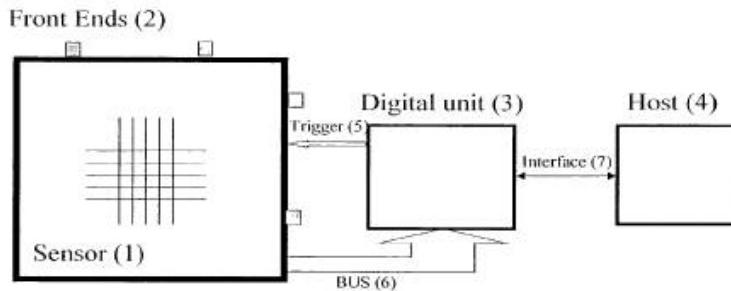
Figure 1: system block diagram

A16,589. The "Sensor," "Front End," and "Digital Unit" are each described separately in different sections of Morag '662. A16,577-81. Thus, incorporating the "Sensor" by reference does not incorporate the "Front End" or "Digital Unit." *Zenon Envtl., Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1380 (Fed. Cir. 2007).

Motorola's expert cannot help it now. *See* MB 47-48. Dr. Wolfe stated only that "certain portions" of Morag '662 were incorporated by reference in Perski '808, and those "portions of Morag '662 describ[ed] the 'patterned transparent conductive foil system.'" A18,412-13. The foil system is part of the Sensor, not the Front End or Digital Unit. A16,577-81, 16,589. Dr. Wolfe never claimed that Perski '808 incorporated the other parts of Morag '662 that Motorola now calls on—not the "General" section of the "Technical Description," and not unspecified "electronics to drive and read the sensor" (which, in any

case, Dr. Wolfe never linked to the "Front End" or "Digital Unit").

A18,412-13; *see* MB 47.

Contrary to Motorola's assertion, MB 46, Apple preserved this

argument. Apple's petition for Commission review argued that "the

Perski '808 provisional application fails to properly incorporate by

reference U.S. Patent Provisional Application No. 60/406,662 ('Morag

'662')—a reference that both the Perski '455 patent and Dr. Wolfe's

anticipation analyses rely on as teaching many of the key structural

limitations" of the '607 patent. A5135. This is certainly not a situation

where the petition for review did not raise the issue "in any relevant

manner." *Finnigan Corp. v. ITC*, 180 F.3d 1354, 1362-63 (Fed. Cir.

1999).

B. The Perski Patent Does Not Anticipate The Claimed Inventions

Apple's opening brief explained that the ALJ's anticipation ruling

was premised on a misunderstanding of both the invention claimed by

the '607 patent and the invention described in the Perksi patent. AOB

55-64. Motorola offers three responses, none persuasive.

1.   The '607 patented invention describes a device with rapid and accurate multi-touch detection

Motorola's principal response makes nonsense of the '607 patented invention. The ALJ ruled that the "speed at which multiple touches are detected [is] irrelevant." A186. Motorola demonstrates how wrong this is by rephrasing it as an oxymoron: "[T]he '607 Asserted Claims do not have a 'speed' requirement. All they require is detection of multiple touches 'at a same time.'" MB 36. Being able to detect two simultaneous touches *at the same time* rather than, say, a minute apart, *is* a speed requirement. By way of illustration, consider the camera that photographers use to take panoramic photographs of a middle school class. Why can mischievous 6th graders get themselves photographed on both sides of the class? Because the camera is *not fast enough* to take the photo of the left side and the right side of the class *at the same time.*

All record evidence from those skilled in the art—the '607 patent, industry records, and both parties' expert testimony—confirms the simple truth that detecting two or more touches "at a same time" requires detection to happen fast enough to do just that. *See* AOB 57-59. (As we have explained in this context "at the same time" means

25

"about the same time (as viewed by a user) so as to provide multipoint sensing." AOB 58.) Tellingly, Motorola does not dispute Apple's account that Motorola's expert found a detection speed requirement in the "at the same time" language. AOB 58 (citing testimony); MB 36-39 (failing to address issue); IB 36 (acknowledging Motorola's position) (citing A1011-14).

All the evidence from those skilled in the art also refutes Motorola's argument that the claim "recite[s] no requirement that the touch sensor have 100% or some lesser amount of accuracy." MB 40. Motorola's expert explained that the '607 patent "requires detecting two or more touches anywhere on the touch panel and not just along one drive electrode." A19,316-18; *accord* A7164 ("[D]etection of multiple touches in the claimed invention is not the same as the detection of touches by prior art sensors that had shadowing, averaging, masking, or other problems that prevent the accurate detection of multiple touch.") A7382-84, 30,285-86, 31,762-63.

2. The Perski patent does not describe a device with either rapid or accurate multi-touch detection

After unsuccessfully attempting to minimize the importance of speed and accuracy to the '607 invention, Motorola unsuccessfully attempts to show that the Perski invention has these very features.[3]

Motorola does not dispute that a hunt-and-peck keyboard—which is what Perski was trying to invent—does not need to process multiple touches quickly. Nor does it dispute that the Perski method requires 100 times more steps to scan the touchscreen than the method set out in the '607 patent, and thus is 100 times slower. AOB 61; *see* MB 36-38. Perski itself notes the "disadvantage" of requiring so many steps. AOB 61 (citing A16,610, col. 14:31-56).

Nevertheless, Motorola argues that Perski "discusses the ability to detect multiple touches at the same time throughout its specification." MB 34 (citing A16,605, col. 3:61-64; 4:1-3; 4:33-35). But Motorola cites only discussions that make no mention of the speed of the multiple touch detection. For example, one of the discussions refers to "detection

---

[3]   Motorola also hints at a waiver argument. *See* MB 34-35. But Apple all along argued that Perski did not include an "anticipatory disclosure." A5137-38 ("The ALJ's finding of anticipation should be reversed.").

circuitry" "adapted to detect a signal at the at least second conductive element for interpretation as a number of touching objects." A16,605, col. 3:61-64. There is no mention of how rapidly the detection circuitry should interpret the multiple touches. Motorola (at 34, 37) also invokes a passage noting that the "algorithm is preferably able to detect more than one finger touch at the same time." A16,610, col. 14:15-19. To identify the algorithm, Motorola points to the so-called "optimal" approach combining two scanning methods. MB 37-38. But as both sides' experts testified, this approach merely invokes the too-slow $2*n*m$ scanning method described above when multiple touches cause an ambiguity. A16,610, col. 14:57-59; A31,480, 31,793-94.

Motorola argues that one algorithm in the Perski patent is identical to the scanning method taught in the '607 patent and therefore must satisfy the '607 patent's claims. MB 38. But while the algorithm is the same, the rest of the touch sensor is very different. Perski notes that in its device "this method may lead to ambiguity" "when multiple touches occur simultaneously at specific combinations of locations, and the larger the groups the greater is the scope of ambiguity." A16,610, col. 14:53-56; A16,653-55, 31,792-93. The touch

28

panels in Perski and the '607 patent differ in many respects. *See supra*
at 25-28. Thus, while Perski recognized that the *n* step scanning
method would be unable to detect multiple touches using his touch
panel, the same method could work as part of a different invention, like
the invention described and claimed in the '607 patent.

3.   The ALJ misallocated the burden of proof

At a bare minimum, the ALJ's anticipation ruling was premised
on a misallocation of the burdens of proof. *See* AOB 56, 62. Motorola
attempts to defend the ALJ's burden shifting error by suggesting the
relevant statement "relates to its argument that Perski '455 does not
enable the multitouch limitations." MB 39 (citing A186). That is
wrong. The ALJ never mentioned enablement in his analysis. A185-86.

The ALJ should be reversed for this reason alone.

III.   THE COMMISSION BASED ITS FINDING THAT THE '828 PATENT WAS NOT INFRINGED ON THE ALJ'S INCORRECT CONSTRUCTION OF THE "MATHEMATICALLY FITTING AN ELLIPSE" TERM

Both Motorola and the ITC offer strained defenses of the ALJ's
claim construction, which neither had embraced below. And Motorola's
challenge to Apple's claim construction is unpersuasive. A remand is
required to apply a correct claim construction to the facts.

A. Motorola's Defense Of The ALJ's "Actually Fitted" "From That Ellipse" Construction Is Wrong

Motorola does not dispute that the ALJ's two-step construction "is as if the software were a human draftsman fitting an ellipse the old fashioned way—by actually drawing a shape with a pencil around data points on graph paper." AOB 72-73. Which puts Motorola in an awkward position. Motorola does not dispute that its position below—like Apple's position here—was that "mathematically fitting an ellipse" *requires* calculating the five parameters of a standard ellipse. AOB 70. That position is completely inconsistent with the construction it now defends.

Motorola begins with the incorrect assertion that the "preferred embodiment" "describes a two-step process in which an ellipse is first modeled" and "then the parameters of that ellipse are obtained." MB 66-67; *see also* IB 57. Specifically, Motorola contends that the first step —"actually fitting an ellipse"—consists of performing the unitary transformation calculation in the following equations:

$$G_{cov} = \begin{bmatrix} G_{xx} & G_{xy} \\ G_{yx} & G_{yy} \end{bmatrix} \qquad (15)$$

$$G_{xx} = \sum_{e \in G_E} e_z(G_x - e_x)^2 \qquad (16)$$

$$G_{yx} = G_{xy} = \sum_{e \in G_E} e_z(G_x - e_x)(G_y - e_y) \qquad (17)$$

$$G_{yy} = \sum_{e \in G_E} e_x(G_y - e_y)^2 \qquad (18)$$

MB 66-67; *see* A628, col. 26:22-33. These equations do, indeed,

represent a step. But it is not a complete step of fitting an ellipse to the

data, for two reasons. First, two ellipse parameters are "computed prior

to the matrix transformation [equation 15]." A628, col. 25:62-26:10;

A7401, 18,213, 30,614. Second, these equations do not yield an ellipse;

as Motorola's expert explained, "an ellipse has not been fitted unless all

five parameters are known." A19,379-80; *see* AOB 72-73. Thus the

ellipse is fit only after the next set of equations (19-21) calculates the

remaining three ellipse parameters. A19,379-80; A628, col. 26:34-48.

Motorola next offers a strained reading of the '828 patent's

prosecution history. Motorola attributes to the patent applicants the

view that "'mathematically fitting an ellipse' requires more than just

calculating parameters." MB 66. The applicants, according to

Motorola, disagreed with the PTO's statement that "obtaining"

31

parameters was the same as "fitting an ellipse to the data." MB 65.

But in the prior art under discussion, an ellipse was only 'fit' if the

"data happens to be measured from an object that 'is in general ellipse-

like.'" A11,920. All the applicants said was that obtaining parameters

from any shape is not the same as obtaining parameters that

necessarily result in an ellipse.

Motorola is also wrong to suggest that the ALJ's construction is

consistent with Figure 18. MB 67. Motorola scarcely confronts Apple's

point that the flow chart does not so much as suggest that the computer

"actually" draws or fits an ellipse first and then measures the

parameters from that ellipse. AOB 74. Motorola's only response is that

the flow chart includes the step of calculating parameters. MB 67.

That is true but does nothing to support the ALJ's drafting

requirement.

Nor does Motorola succeed in reconciling the ALJ's construction

with the alternative embodiment set out in the patent. *See* MB 67-68.

Motorola does not dispute that in this embodiment, there is no "actual"

fitting before these default values are used. *See* AOB 74-75. Motorola

responds merely by quoting the ALJ's comment that this alternative

embodiment is a "completely alternative method to analyze proximity

data." MB 68. But this alternative method fits an ellipse, and thus

claim 1 must be construed to cover it. *MBO Labs., Inc. v. Becton,*

Dickinson & Co., 474 F.3d 1323, 1333 (Fed. Cir. 2007) (noting that "a

claim interpretation that excludes a preferred embodiment from the

scope of the claim is rarely, if ever, correct") (internal citation omitted).

Confirming the point, inventor Wayne Westerman's doctoral thesis,

which was imported almost verbatim into the '828 patent's

specification, describes this second method under the heading "Ellipse

Fitting." A13,328-30; *see* A30,345-49.

The ITC (but not Motorola) argues that dependent claims 2 and 3

show that "mathematically fit[ting] an ellipse discuss[es] the process of

fitting an ellipse in a particular way." IB 55 (internal quotation marks

omitted). But those claims are directed towards *transmitting*

parameters not *calculating* parameters A645, col. 60:16-18

("transmitting one or more ellipse parameters as a control signal to an

electronic or electromechanical device"). In other words, these

dependent claims capture the transmission of certain parameters that

33

were necessarily calculated in claim 1's "mathematically fitting" limitation.

The ITC also argues that Figure 16 supports the ALJ's construction. IB 56-57. In relevant part, Figure 16 requires that the contact groups are "parameterized by fitting an ellipse." A625, col. 19:8-12. Precisely; ellipse fitting and parameterization—computing numerical parameters—are one and the same. A7116-17.

B.   Motorola's Criticism Of Apple's Construction Ignores The Relevant Parts Of Apple's Construction

Motorola criticizes Apple's claim construction, MB 62, which defines "mathematically fitting an ellipse" as "comput(ing) numerical parameters that mathematically define an ellipse which approximates the shape of at least one of the pixel groups." AOB 71 (quoting A3112-16). Motorola's challenges to Apple's claim construction are meritless. Motorola has no response to our point that Apple's construction reflects the patent's teaching: Computer software takes data from the pixel group and performs mathematical functions to yield five numbers representing the five parameters of an ellipse that approximates the shape of the pixel group. AOB 69-70 (discussing A628, col. 25:54-26:56).

Instead, Motorola mainly reiterates the ALJ's observation that Apple's claim construction leads to "mathematical ambiguity," noting that under Apple's construction "fitting an ellipse" would also include "fitting a rectangle or any other shape that could be described by the same parameters that could describe an ellipse." MB 62-63. Motorola finds ambiguity only by editing out a key word in Apple's construction. Apple's construction specifically requires that "*an ellipse*" be defined, not some other shape. *Compare* MB 62 *with* AOB 71. Furthermore, the ellipse must "approximate the shape of the pixel group"; intersecting lines, for example, could not meet that construction.

C.   A Remand Is Required

As in just about every patent case, the ALJ analyzed infringement in two steps: He (1) construed the claims, A58-70; and then (2) considered whether the accused products infringe under that construction, A118 ("the primary dispute … centers on whether the Accused '828 Products meet the 'mathematically fit(ting) an ellipse' limitation"). If this Court adopts a different construction, it should remand. This is not the forum in which to resolve the ITC's lengthy and highly technical argument as to why Motorola's devices do not in fact

infringe under Apple's (or any other) claim construction. *See* IB 59-66. On that subject, we offer two observations.

First, Motorola misstates the record when it argues that "Apple's expert actually conceded at the hearing that there is no literal infringement under ***any*** party's proposed construction" by the non-Xoom products. MB 69 (emphasis in original). In fact, this testimony responded to a line of questioning, replayed from Dr. Balakrishnan's deposition, about whether these products "satisfy ***Motorola's*** proposed construction for mathematically fitting an ellipse." A30,653-55 (emphasis added). Apple's counsel revisited this question and answer on redirect, and Dr. Balakrishnan stressed that he was talking about *Motorola's* construction in his earlier testimony. A30,724-25.

Second, Motorola is also incorrect in asserting that "the ALJ found that the Xoom does not infringe 'under any construction.'" MB 69. The ALJ noted that "Apple appears to concede that the *Atmel chip itself* does not 'mathematically fit an ellipse' under any construction." A133 (emphasis added). But nothing in the ALJ's opinion suggests that Apple conceded that the Xoom does not infringe under Apple's construction. To the contrary, Apple argues ███████████

██

█████████   A133. Although the ALJ rejected that infringement

argument, he obviously did so based on the claim construction he had

already adopted and was not issuing an advisory opinion as to all

constructions not before him. *See* A134.[4]

CONCLUSION

The judgment of the ITC should be reversed and the case

remanded.

Dated: November 15, 2012   Respectfully submitted,

<u>/s/ E. Joshua Rosenkranz</u>
E. Joshua Rosenkranz
Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
(212) 506-5000

Attorney for Appellant

---

[4]   The ITC also argues that the parameters ████████████████
██████ "are neither obtained as a result of fitting an ellipse to the pixel
data, nor do they represent ellipse parameters." IB 60. But it ignores
that ██
████████   AOB 77-78.

CERTIFICATE OF SERVICE

I hereby certify that on this 15th day of November 2012, I caused the nonconfidential version of the Reply Brief of Appellant Apple Inc. to be electronically filed with the Clerk of the Court using CM/ECF, which will automatically send email notification of such filing to the following counsel of record:

Megan Michele Valentine
International Trade Commission
Suite 707-K
500 E Street, S.W.
Washington, DC 20436
megan.valentine@usitc.gov

Andrea C. Casson
International Trade Commission
Office of the General Counsel
Suite 707-D
500 E Street, S.W.
Washington, DC 20436
andrea.casson@usitc.gov

Counsel for Appellee International Trade Commission

Charles K. Verhoeven
Quinn Emanuel Urquhart & Sullivan, LLP
22nd Floor
50 California Street
San Francisco, CA 94111
charlesverhoeven@quinnemanuel.com

Edward J. DeFranco
Quinn Emanuel Urquhart & Sullivan, LLP
51 Madison Avenue
22nd Floor
New York, NY 10010-1601
eddefranco@quinnemanuel.com

David A. Nelson
Quinn Emanuel Urquhart & Sullivan, LLP
500 West Madison Street
Chicago, IL 60661
davenelson@quinnemanuel.com

Matthew A. Traupman
Quinn Emanuel Urquhart & Sullivan, LLP
51 Madison Avenue
22nd Floor
New York, NY 10010-1601
matthewtraupman@quinnemanuel.com

Alexander Rudis
Quinn Emanuel Urquhart & Sullivan, LLP
51 Madison Avenue
22nd Floor
New York, NY 10010-1601
alexanderrudis@quinnemanuel.com

Counsel for Intervenor
Motorola Mobility, Inc.

/s/ E. Joshua Rosenkranz
Attorney for Appellant

**CERTIFICATE OF COMPLIANCE
UNDER FEDERAL RULES OF APPELLATE PROCEDURE
32(a)(7) AND FEDERAL CIRCUIT RULE 32**

Counsel for Plaintiff-Appellant Apple Inc. certifies that the brief

contained herein has a proportionally spaced 14-point typeface, and

contains 6,888 words, based on the "Word Count" feature of Word 2007,

including footnotes and endnotes. Pursuant to Federal Rule of

Appellate Procedure 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b), this

word count does not include the words contained in the Table of

Contents and Table of Authorities.

Dated: November 15, 2012   Respectfully submitted,

                                     /s/ E. Joshua Rosenkranz
                                     Attorney for Appellant